VAJRA80 user's manual

SHENZHEN SPEEDWOLF TECHNOLOGY CO.LTD

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I. Disclaimer

This product is only suitable for adults over the age of 18. Regard as accepting this statement for any users who areusing these products.

Dear users,

Thank you so much for choosing our VAJRA80.Our company do not assume all the loss from the situations as below, so please carefully read the disclaimer before the flight to avoid bring you some troubles.

1. **All the loss resulting from using the aircraft in no-fly zone or danger area.**
2. **All the loss resulting from misoperation , misjudgment or beyond visible range during flight, etc.**
3. **All the loss resulting from appearing operational errors on purpose.**
4. **All the loss resulting from unauthorized disassembling, modification or installation has been performed.**
5. **All the loss resulting from appearing some situation that are not suitable for using this products, such as distraction, a cluttered mind and fuzzy thinking, etc.**
6. **All the loss resulting from the enforced use while the aircraft is in some special conditions (inflowing any fluid, the machine with serious damage, after power warning, etc).**
7. **All the loss resulting from the accident caused by being close to the crowd or navigational hazard.**
8. **All the loss resulting from the crash caused by the wrong operation that does not follow the instructions or the critical low-battery error due to excessive battery discharge in a single flight time.**
9. **All the loss resulting from some reason being not suitable for flight, such as bad weather conditions (thunderstorm day, greasy weather, heavy wind, etc) or the environment with strong electromagnetic interference.**
10. **All the loss resulting from the incorrect use for the battery or the charger is not provided by our company.**
11. **All the loss resulting from beyond our scope of responsibility.**
12. **This statement shall be explained by Shenzhen Speedwolf Technology Co.,Ltd.**

II. VAJRA80 rotorcraft

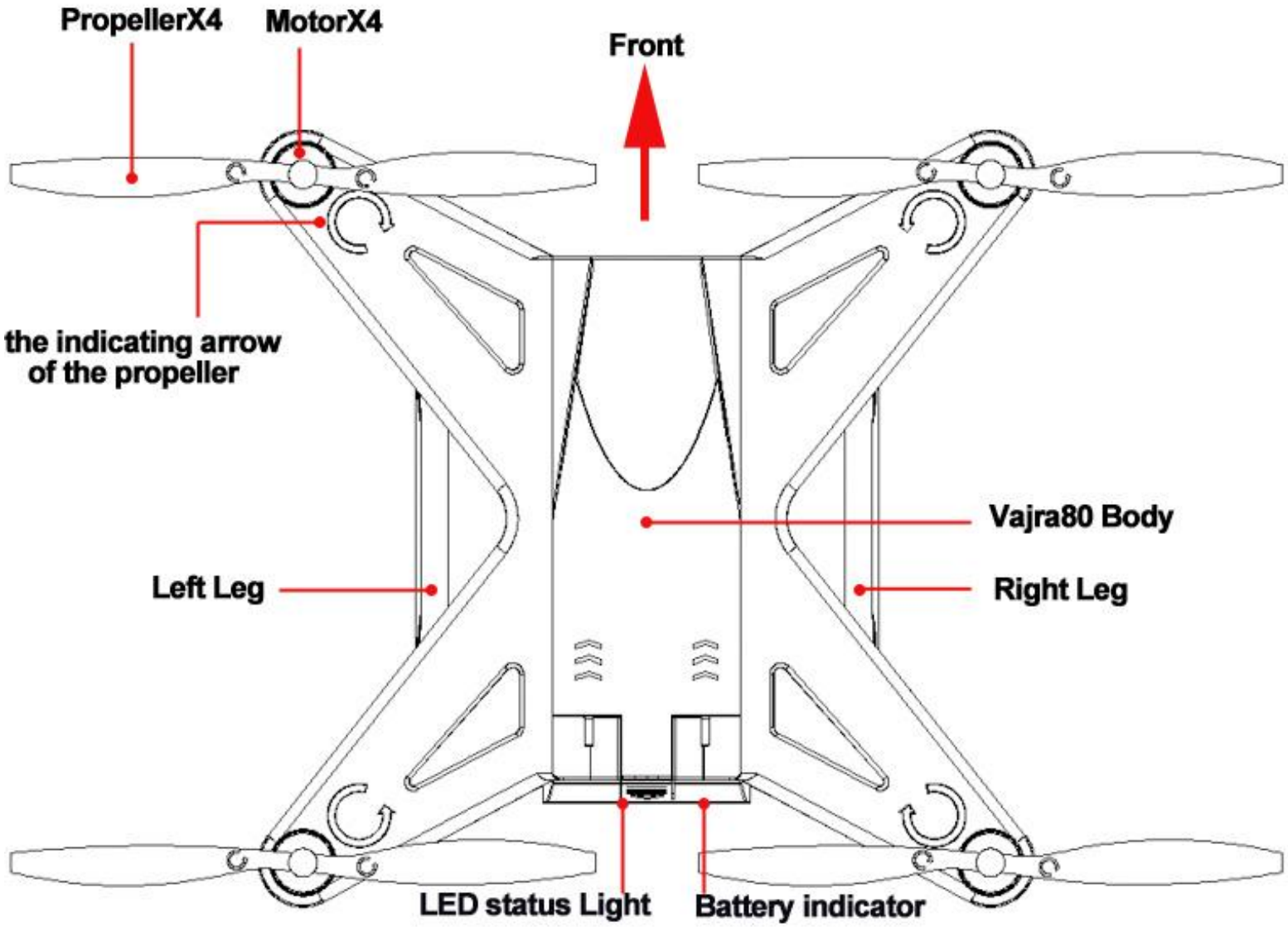


Image 1 VAJRA80-Top

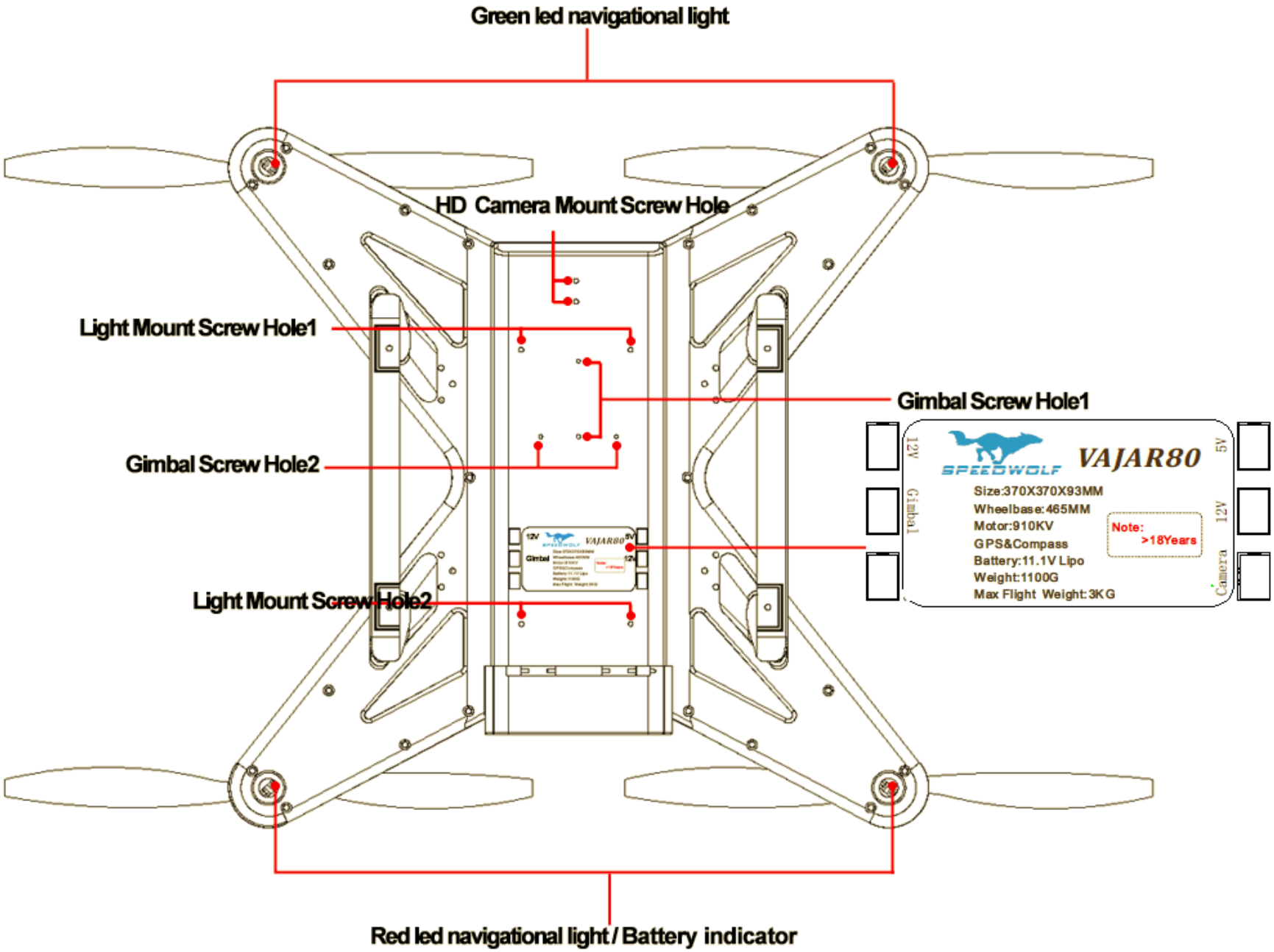


Image 2 VAJRA80-Back

III. The Remote controller

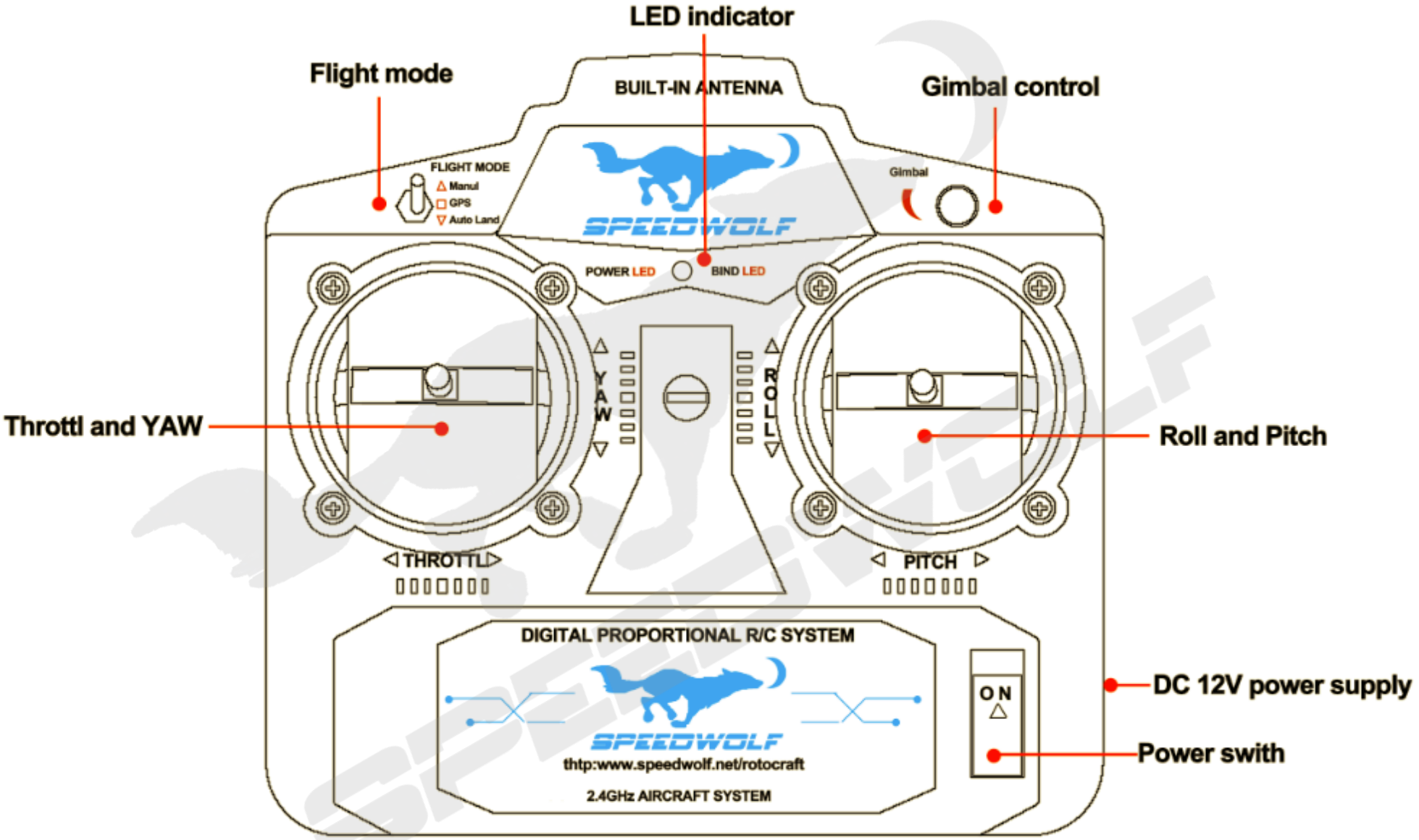


Image 3 Remote controller

IV. Flight Mode

1.**Manual:** Must be locked & unlocked in this mode. and In this mode, GPS will have no functions during flight.
2.**GPS**: the aircraft must be detected the GPS signal and keep in a good condition at the same time in this mode. Users will be easier to control the plane with the GPS signal, and you can accomplish a lot of stable operations by coordinating the rocker of direction and throttle, such as spot hover, take off and landing, etc.
3.**Auto Land:** automatic landing mode, assisting users in reducing the risk due to the improper operation during landing. But it's only a helping role, users have to make timely adjustments in the process of landing.

V. Installation of the blade holder

1.Installation of the blade holder and propeller.

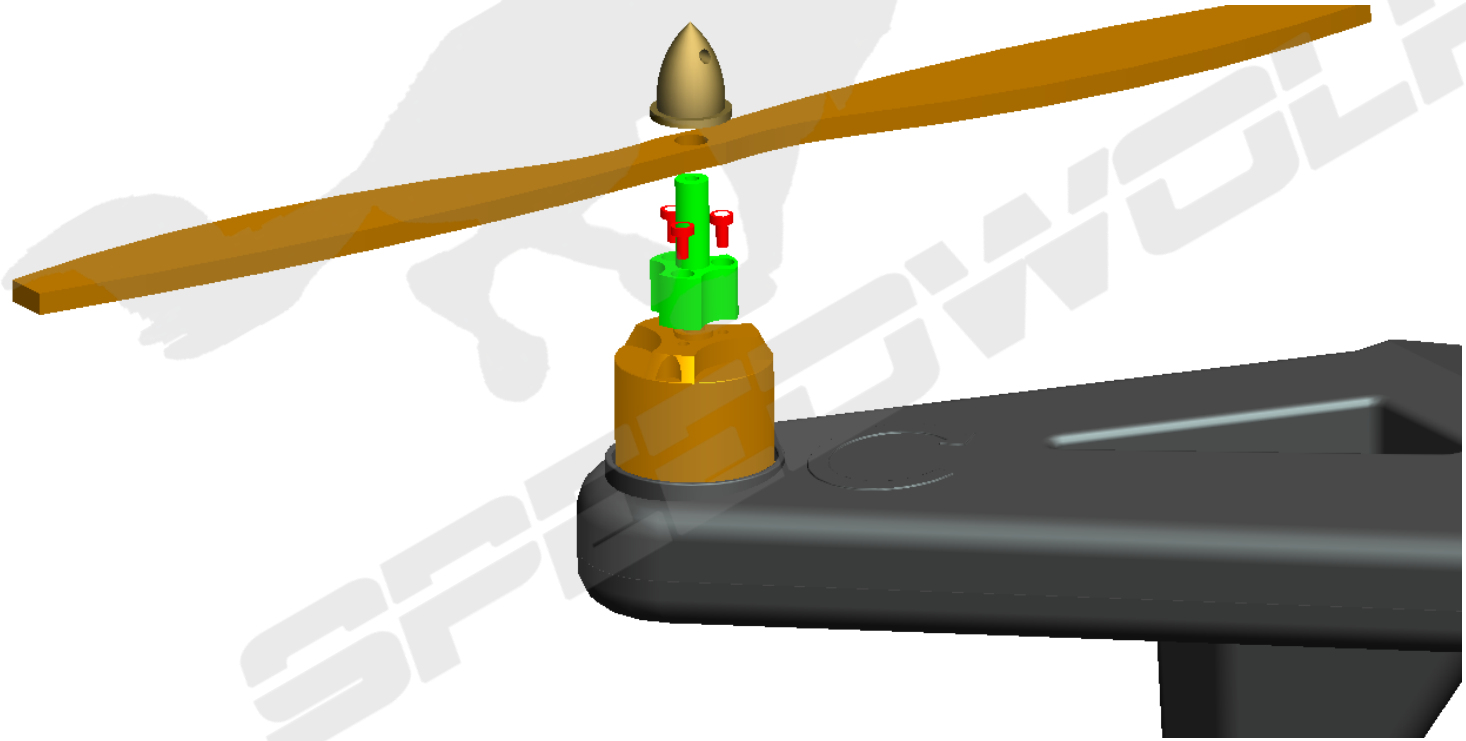


Image4 Installation of the blade holder1

2.The VAJARA80 motor rotation have two ways: clockwise rotation and contra rotation. (Drone can not damage because screws out the motor. The screws will more and more screws up when flying.) The tool bags have sign match to the drone, As shown below:

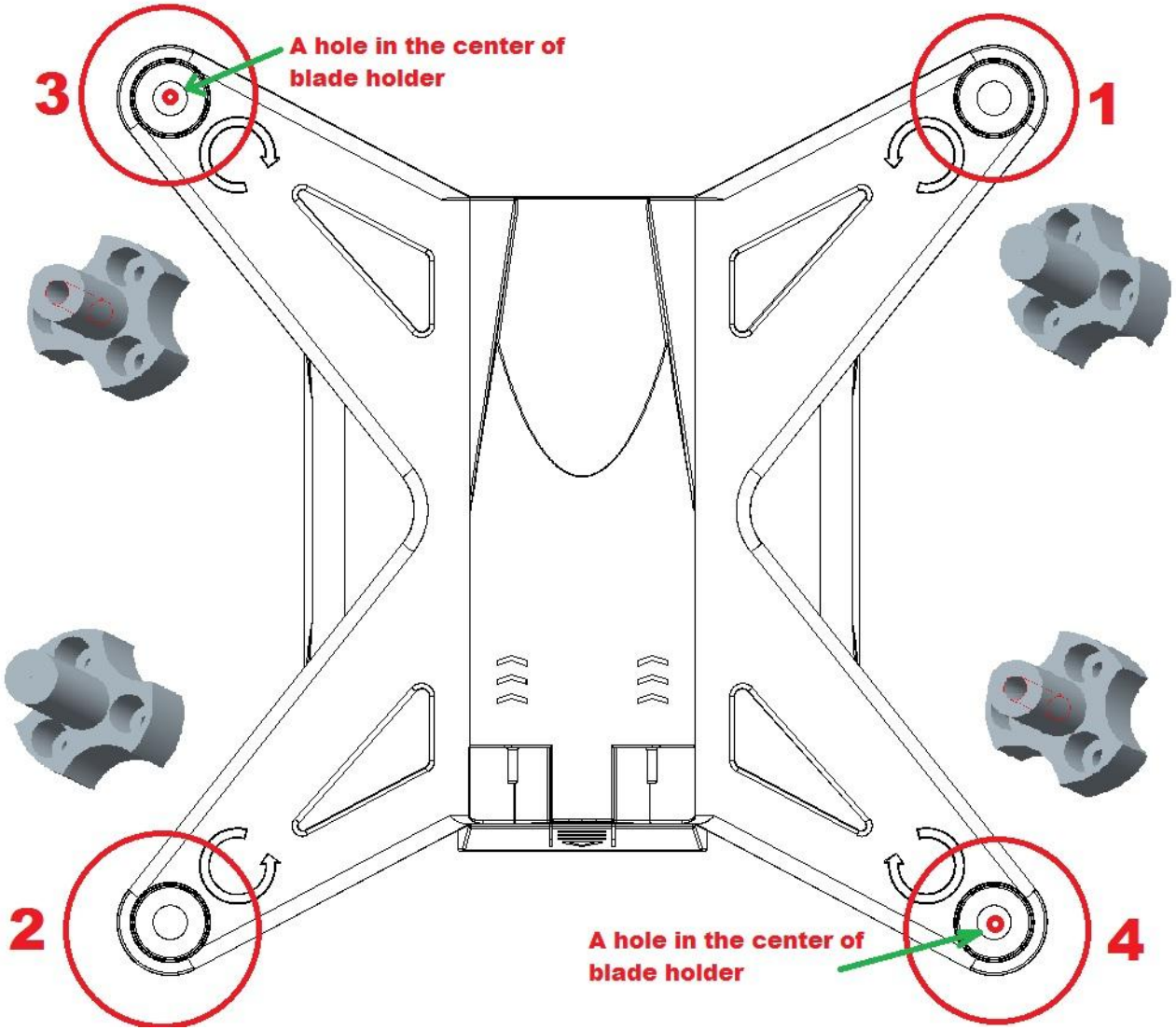


Image5 Installation of the blade holder2

3.How to find out the clockwise rotation and contra rotation: There is a small hole in the center of blade holder of NO. 3/4. Without hole in the NO.1/2. Need to match the NO. as the picture shown.

VI. The Installation of the propeller

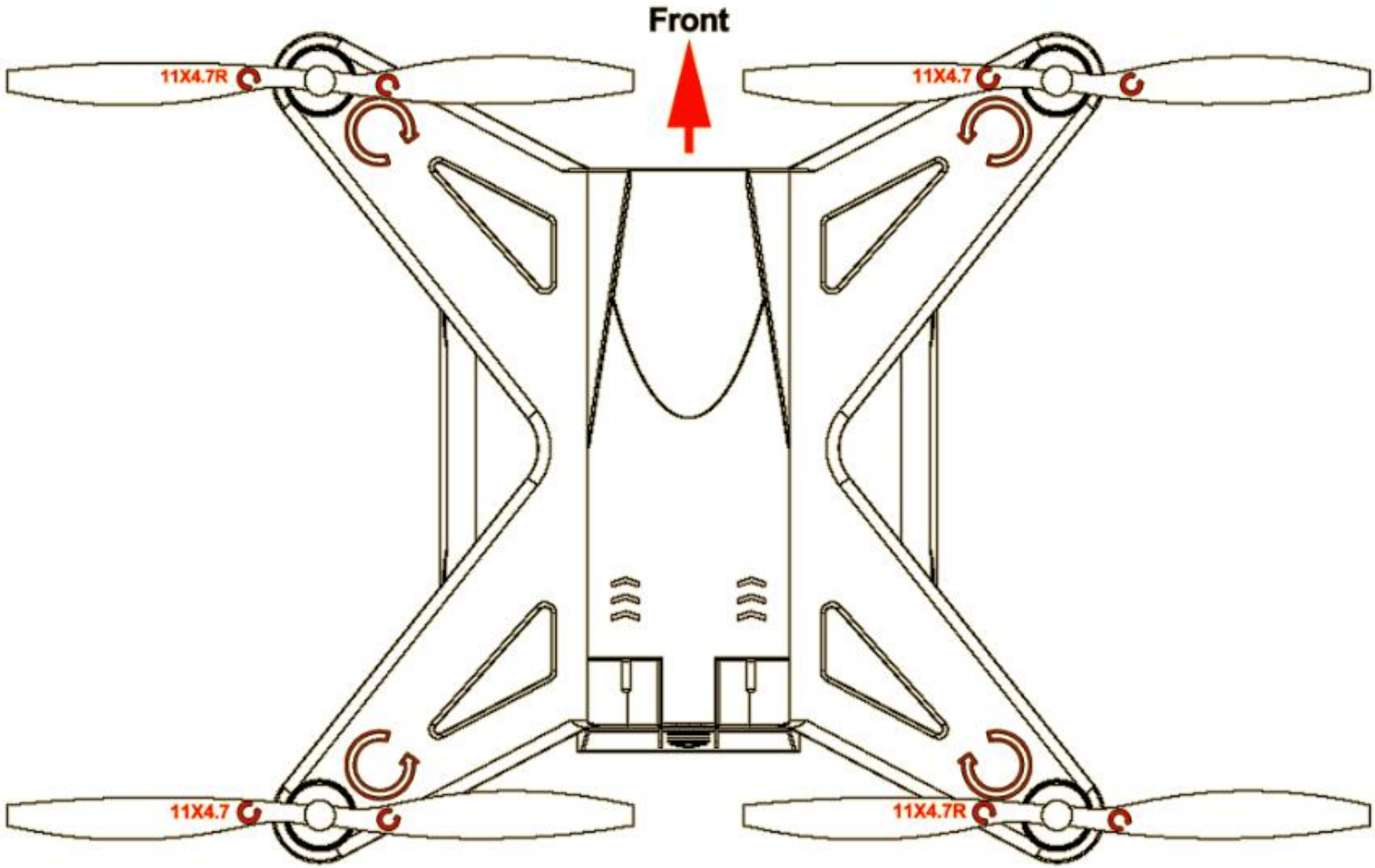


Image 6 The Installation of the propeller

The methods of recognizing the propeller

1. There is identification **11X4.7R** or **11X4.7** on propeller, please install the propeller following the picture above.
2. There is indicating arrow for the installation of propeller on each wing, please install the corresponding propeller following the picture above.

VII. Charger and battery

1. Charger

(1)Please pay close attention to the battery terminal and the charger socket before charging, and then gently insert the battery terminal; forcing the battery terminal to be inverted insertion is strictly prohibited to avoid damaging the charger.

(2) Please far away from children and carry out under the observation during charging; cut off the power quickly and use right way to deal with the problem, if an exception happens when charging(the battery with smoking, expand, peculiar smell, etc).

(3) Forbid to use damage battery and charger to charge.

(4) First the charger indicator light shows red, while it will turn to green when charging is complete.

(5)please do not use the battery with swell, damage or deformation, and timely get in touch with the supplier.

2.Battery

(1)No unauthorized disassembling or restructuring battery.

(2) No the battery short-circuits.

(3) No charging near the fire or in the sunlight.

(4) Do not put battery into any liquid.

(5) Do not insert the nail, knock with hammer or tread.

(6)Do not shock or throw.

(7)Do not use under the serious damage or deformation.

(8)Do not solder directly to the battery.

(9)No over-charge &discharge.

(10)Do not reverse charge or reverse connection.

(11)Do not connect to the socket or car cigarette socket for charging.

(12)Do not use the unspecified device.

(13) Do not directly touch a leakage of battery.

(14)Far away from where the children can easy reach.

(15) Do not put the batter in microwave or high pressure vessel.

(16)Do not use a leakage of battery near the fire.

(17)Do not use

VIII. Battery Indicator and Maintenance and use of the battery

1. Battery Indicator

There is two ways the show Battery Indicator: The door of battery, The bottom of motor,As shown below:

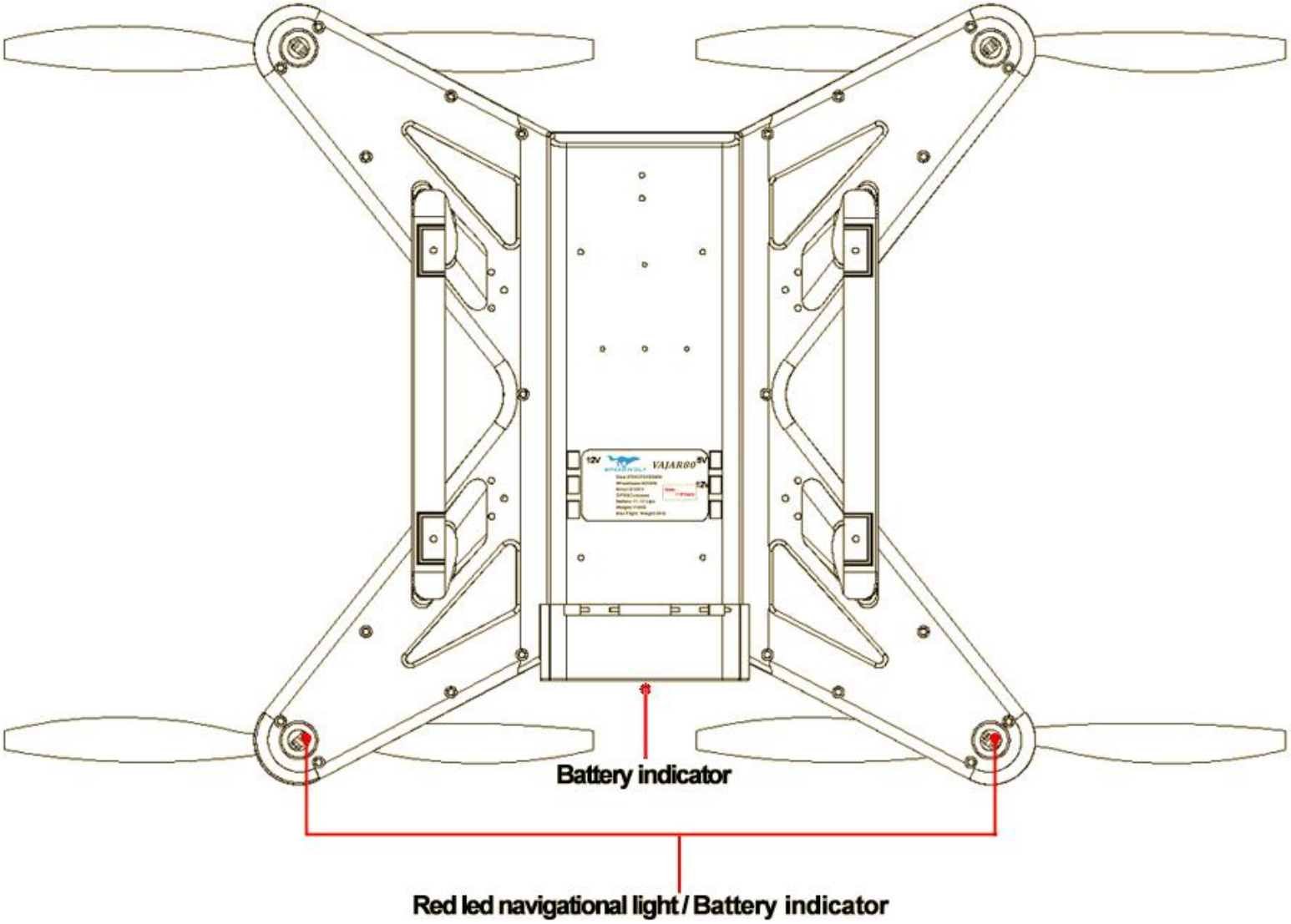


Image 7 Battery indicator

(1)The door of battery shown as below picture:

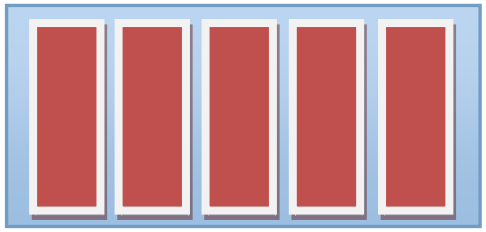


Image8 Battery indicator

(2)The red light in the bottom of motor, the red light will slowly flash every 2 second when the electric quantity reduces to 50%. The red light will flash fast when the electric quantity reduces to 20%.

2.Maintenance and use of the battery

(1)Do not save the battery fully charged, otherwise it will cause damage to the battery pack battery drum; they also do not want to s ave battery power loss, which will also lead battery scrap; measuring method for the battery into the VAJRA80, view the rear battery compartment cover battery indicator full grid represents full power; if the buzzer alarm, flashing alarm borders, then the battery pow er loss. Recommendations to save battery power for 3-4 grid. If more than 4 cell battery, can be mounted to VAJRA80, using about 1-2 minutes.

(2)If unused for a long time, please check the power each month in accordance with the first point.

(3) Although supporting the charger stops charging after full functionality, but we recommend charging the battery can be guarded, disconnect the power supply as soon as possible after fully charged.

(4) Battery when in use, try not to run out of the battery, when the power drops to 50%, which is the tail of the motor when the LED flashes slowly, if not necessary, as soon as VAJRA80 land and replace the battery, which can significantly extend battery life; if electricity is downloaded to 20%, LED lights flash, please be sure to drop VAJRA80 and replace the battery.

IX. The aircraft interface

There are six plug interfaces at the bottom of the aircraft fuselage as shown below.

Image 9 Interface

Two 12V for gimbal and 5.8G vedio receiver to use; 5V for camera that is provided by our company; Gimbal for itself; Camera for the built-in camera (PS: This interface does not serve any function at all, if have no the built-in camera.).This type of plug can prevent inserting in the opposite direction, but users must confirm the orientation at first. Our company only provides the product with the supporting external device, we shall not bear any responsibilities, if you do not insert in the corresponding socket, or use other external devices that is not provided by us.

X. Landing and Lock VAJRA80

1. Landing

Three kinds of flight mode can be carried out on the aircraft landing, the specific operation of landing as below.

(1) Manual: slowly lower the throttle; adjust the location where is suitable for landing; then quickly lock VAJRA80 when landing to the ground.

(2) GPS: adjust the aircraft to a suitable location, and then keep hovering; slowly landing after lower the throttle; make the throttle in lowest position after landing, and then quickly switch to manual mode, finally lock VAJRA80. (users can adjust the position of landing through controlling the direction of rocker during hovering)

(3) Auto Land: switch to this mode after adjusting the aircraft to a suitable location, and then the aircraft will autoland. Do not need manual intervention, if the landing site is smooth; if not, you can adjust the position of landing through controlling the direction of rocker in the whole process of landing. The propeller will continue to low-speed rotation after landing, quickly switch to manual mode and then lock VAJRA80.

2. Lock VAJRA80

Operate the rocker of throttle and direction to position as shown below (pulling the rocker outward, to the down), and locked VAJRA80 after keeping 6 seconds. (about the indicator light after being locked: if no GPS signal, green, yellow and red light alternating flashing ; if there is GPS signal, yellow and green alternating flashing)

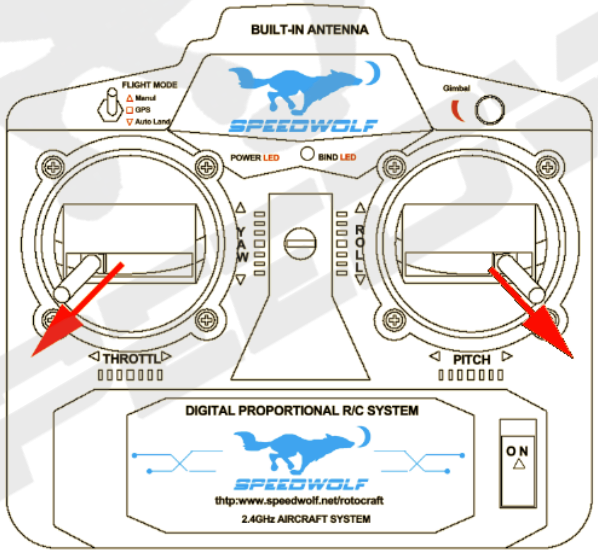


Image10 Lock VAJRA80

XI. Unlock VAJRA80

Operate the rocker of throttle and direction to position as shown below (pulling the rocker inward, to the down), and locked VAJRA80 after keeping 6 seconds. (about the indicator light after being locked: if no GPS signal, yellow and red light alternating flashing; if there is GPS signal, yellow is always flashing)

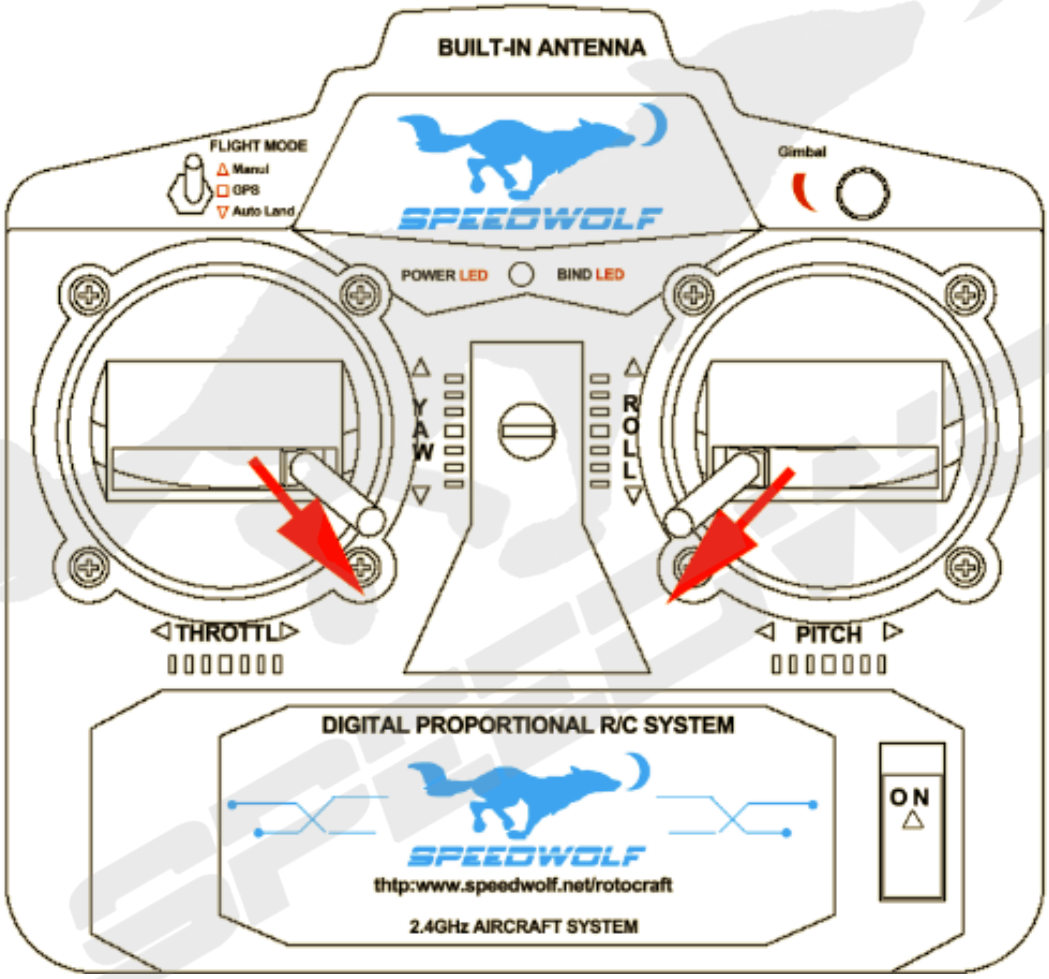


Image 11 Unlock VAJRA80

XII. VAJRA80 operating steps

Step1: Trying to put aircraft on the open ground (Good GPS signal depends on it's surroundings), and ensure the nose forward.

Step2: I**nitialization**: (Note: Turn off the remote controller before connect the battery)Red light on the tail start 5s flashing after connect battery, meanwhile observing the battery indicator, and do not move the aircraft during initializing.

Step3: **GPS searching**: after system initialization is complete, green, yellow and red light alternate flashing, then start searching GPS signal; if there is GPS signal, yellow and green alternate flashing)

Step4:**Unlock VAJRA80**: Turn on the Remote controller,Pulling the rocker of throttle and direction inward, to the down, and locked VAJRA80 after keeping 6 seconds. If no GPS signal, yellow and red light alternating flashing ; if there is GPS signal, yellow is always flashing)

Step5: **Take off**: Directly push up the throttle to take off; in the case of GPS in good condition, will be able to unlock flight mode into GPS mode off (if it is GPS mode, you need to push the throttle to about 50% before starting to take off, and always pay attention to the aircraft state)

Step6: **Hover**: if need this function, as long as switch the flight mode to GPS, and keeping the throttle and direction in the middle. Besides, users can change the position during hovering by adjusting the rocker of throttle and direction.

Step6:**A key to return to home**: the aircraft will automatically enter into the state of returning after turning off power switch of controller, and rise to the height of16m. Then return to HOME point, turn into automatic landing after 3 seconds, steadily down to the HOME point without opening the controller or other interference.

Step7:**Fail-Safe protection**: the aircraft will turn into the state of Fail-Safe when it cannot receive any signals from controller, and then automatically return until getting the signal again. If cannot get signal all the time, it will complete automatic landing.

Step8: **Landing**: put flight mode into AUTO Land or lower throttle.

Step9: **Lock**: Pulling the rocker of throttle and direction outward, to the down, and locked VAJRA80 after keeping 6 seconds. If no GPS signal, green, yellow and red light alternate flashing ; if there is GPS signal, yellow and green alternate flashing)

XIII. LED status Light

Instruction light :There are two mold light flash:. No-GPS and GPS Mold

1.**Initialization**:the tail of red light start flashing after connecting battery about 5s. then red flashing about 3s

2. **After Initialization**

(1)No-GPS signal:

Disarmed: Green, Yellow and Red light changing flash.

Arming: Lights out or One of three lights holds on for 3 second.

Armed: Yellow and red light changing flash

(2)GPS signal

Disarmed:Green and Yellow changing flash.

Arming: Lights out or One of two lights holds on for 3 second.

Armed: Yellow flash

XIV. 1080P sport waterproof camera

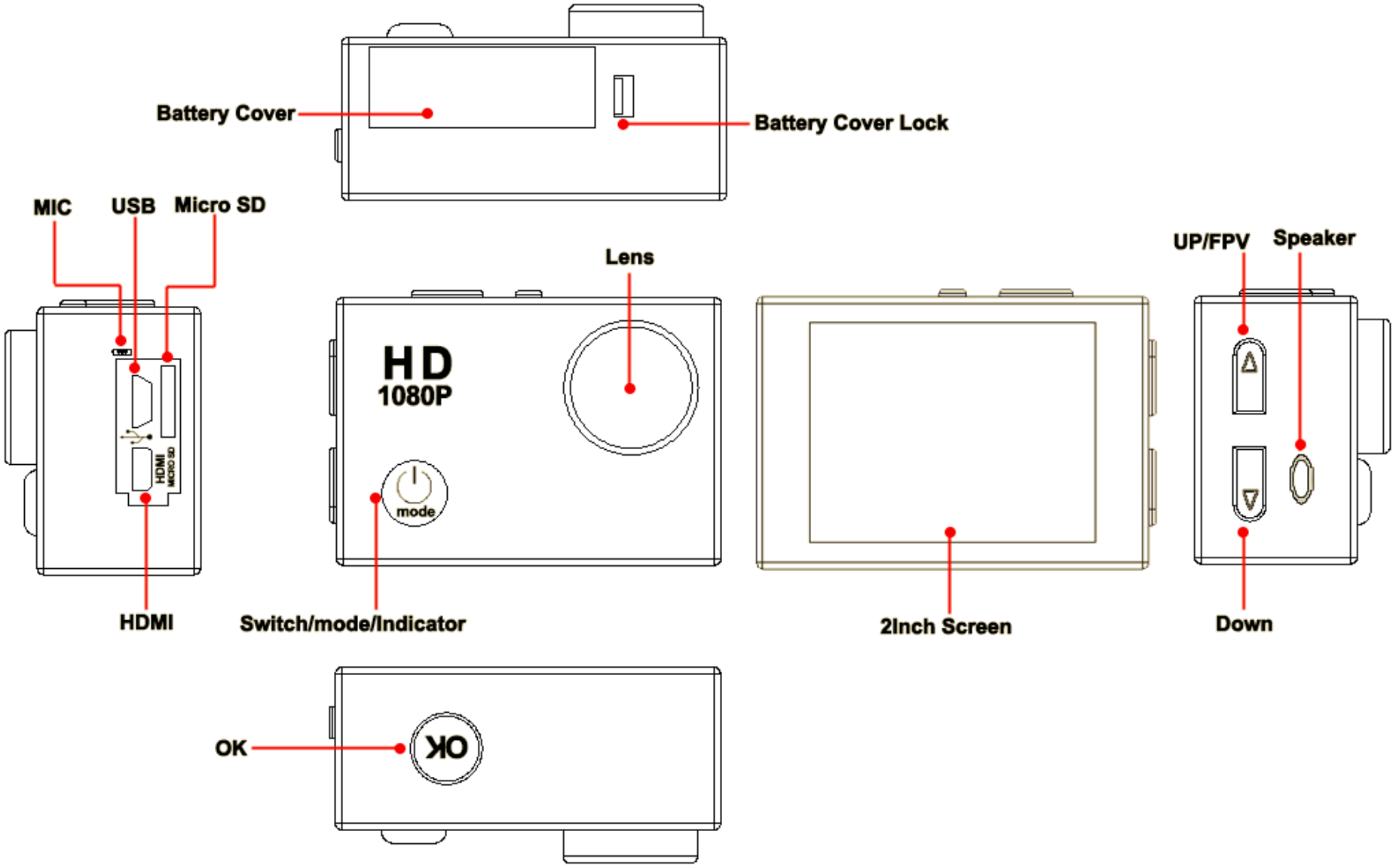


Image 12 Introduce of Camera

1.Warning

(1)It is a high-precision product, do not fall or cash.

(2)Do not expose the unit to strong magnetic objects, such as magnet and electrical motor. Avoid strong radio waves. Strong magnetic fields may cause the products breakdown or images and sounds damage.

(3)Never leave the products exposed to high temperatures and direct sunlight.

(4)Please choose branded Micro SD card. Neutral cards are not guaranteed to work normally.

(5)Do not place Micro SD card near strong magnetic objects to avoid data loss.

(6)In case of overheating, smoke, or unpleasant smell in the process of charging, unplug your device immediately to prevent fin hazard.

(7)While it is charging, keep the product out of children’s reach. Power line may cause children accidental suffocation or electric shock.

(8)Keep the device in cool, dry and duct-proof places.

2.Preface

This product is a high-definition digital motion video recording device tailored to market demand. It has a variety of industry-leading features including digital video recording, photo shooting, audio recording, video display and detachable battery, which makes it perfect for vehicle data recording, photo-shooting, outdoor sports, home security, deep-water probing, etc., allowing you to film at anytime, anywhere.

3.Camera Features

(1)A water-resistant casing that allows you film fascinating water sports; water-resistant up to 30 meters under water.

(2)High definition screen that display and replays fascinating videos record.

(3)Detachable battery that is easy to replace and prolongs your camera’s service life.

(4)Video recording while charging.

(5)Video recording with battery.

(6)12-megapixel HD wide-angle lens.

(7)HDMI HD output

(8)Web camera.

(9)Support storage cards up to 32GB maximum.

(10)Multiple video recording formats: 1080P/720P/WVGA

(11)Recorded in AVI format.

(12)ultiple photo shooting modes: single shot, snapper.

(13)Video encryption enabled

(14)Mini appearance, diversified colors available.

4.Parameters of Camera

Liquid Crystal Display	2.0 LTPS
Lens	170° A+HD wide-angle lens
Language Options	English/Español/Português/Chinese Simplified/Chinese Traditional/ Italiano/Latviski/Polski/ Românâ/ Slovenščina/Russian
Resolution of Videos Recorded	1080P (1920*1080) 30FPS 720P (1280*720) 60FPS 720P (1280*720) 30FPS VGA (640*480) 30FPS
Video Format	AVI
Compressed Format of Video	H.264
Resolution of photos	14M/12M/8M/5M/2M/1.2M/VGA
Storage	Micro SD
Shooting Mode	Single Shot/Self-timer/(2s/5s/10s)/Continuous Shooting
Frequency of Optical Source	50Hz/60Hz
USB Interface	USB2.0
Power Source Interface	5V/1A
Battery Capacity	900MAH
Power Dissipation	450mA@4.2V
Recording Time	1080P/About 90 minutes
Charging time	About 2 hours
Operating System(OS)	Windows XP/Vita or Above/Win 7/Mac os
Dimensions	59*41*29mm

5.Operation

(1)Inserting Micro SD cards

Note:please choose branded Micro-SD card and format it on computer before use. Neutral cards are not guaranteed to work normally.

(2)Installing and removing batteries

a.Press on battery cap to open it.

b.Correctly install battery into camera as indicated by +/- symbols and direction of arrows marked on battery until it’s in place.

c.Battery gauge: please refer to diagram.

d.Remove battery: open cap to take battery out.

(3)Charging

a.Charging can be done by either connecting power adapter to computer or power adaptor.

b.Charge on vehicle by connecting it to car charger.

c.It can record video while charging.

Note: When it is connected with power and automatically video recording, charging can be done even when long press power witch.

(4)Switching camera on and off

Press and hold power switch for 3 to 5 seconds to turn it on/off.

(5)Mode switching

Switch between video recording/photo shooting/playback/menu by pressing Power On-Off button.

(6)How to record video and configure recording setting

a.Video Recording

Switch to recording mode and there’ll be an STBY icon in the upper left corner of screen. Press OK to start recording and the REC icon in the upper left corner will start to flash. Press “OK” again if you want to stop.

Resolution of video recorded: 1080P/720P/VGA

Note: The default recording mode is loop. Not enough storage space available for the recording, the later files will overwrite to the earlier ones. Please choose and adjust your modes according to the menu.

b.Photo Shooting & Setting

Switch the camera on and press “Mode” to select “Photo shooting Mode”, there’ll be an STBY icon in the upper left corner of display screen and camera is in photo shooting mode. Press “OK” to take photos.

Shooting Pattern: Single shot/Self-timer (2s/5s/10s)/Continuous Shooting

c.File Storage & Playing

After you are done recording, use a USB cable to export the videos onto a computer to play. Or you take Micro SD card out and access the image data with a card reader.

6.Connect USB

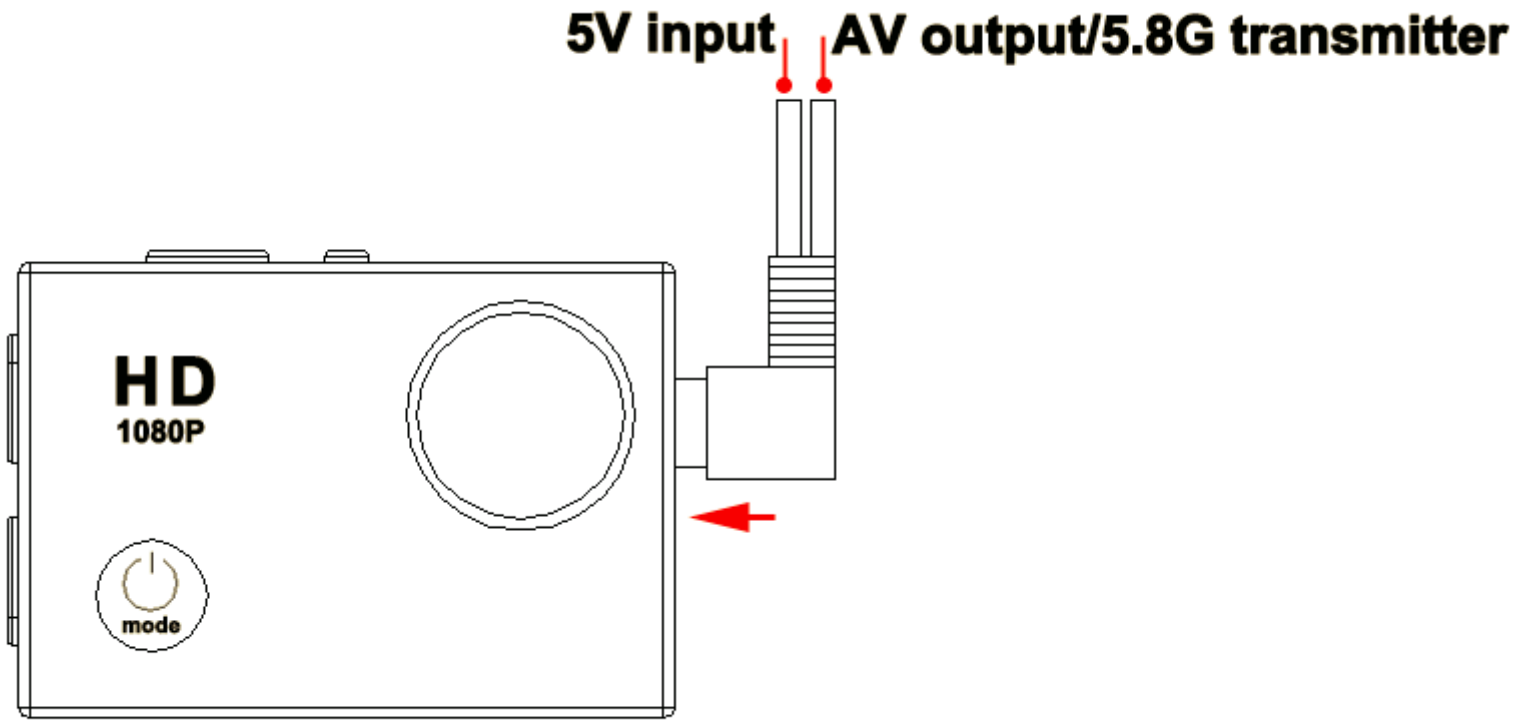


Image 13 Connect Mini USB

7.Connect 5.8G transmitter(FPV)

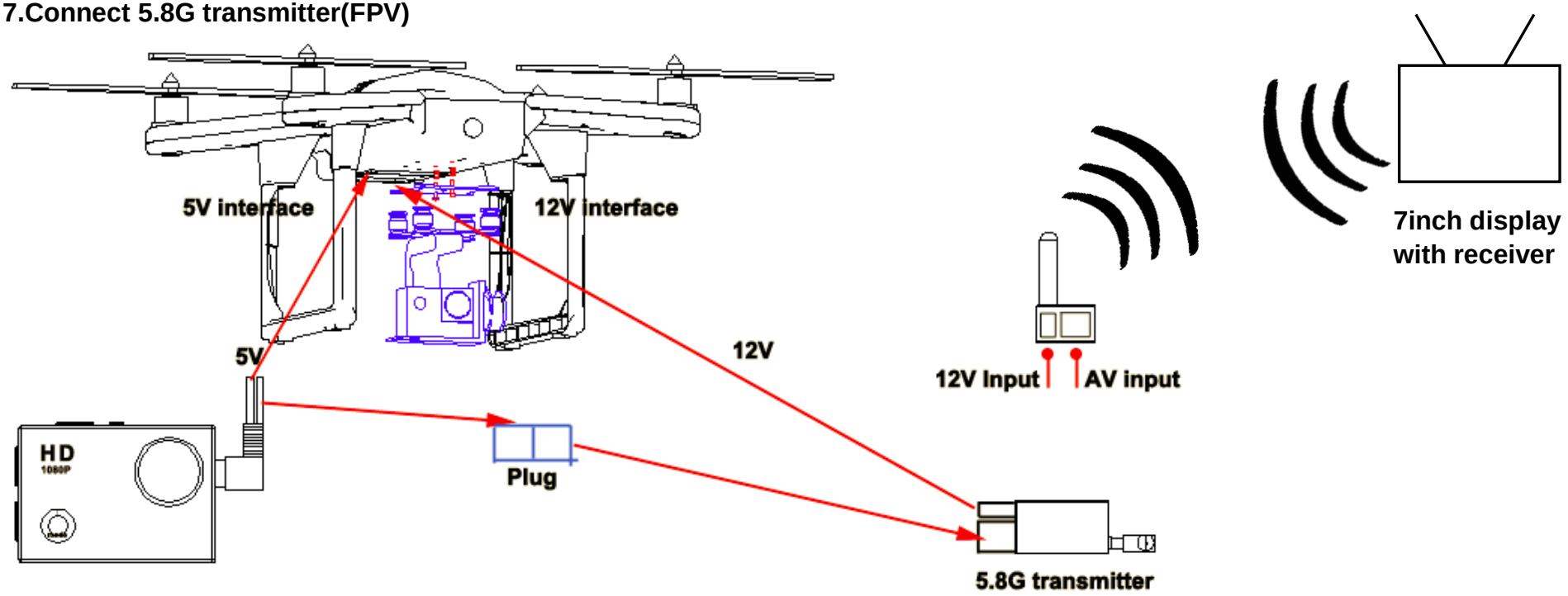


Image 14 Connection 5.8G diagram

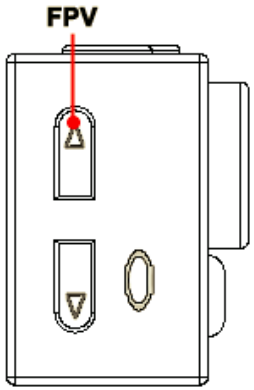
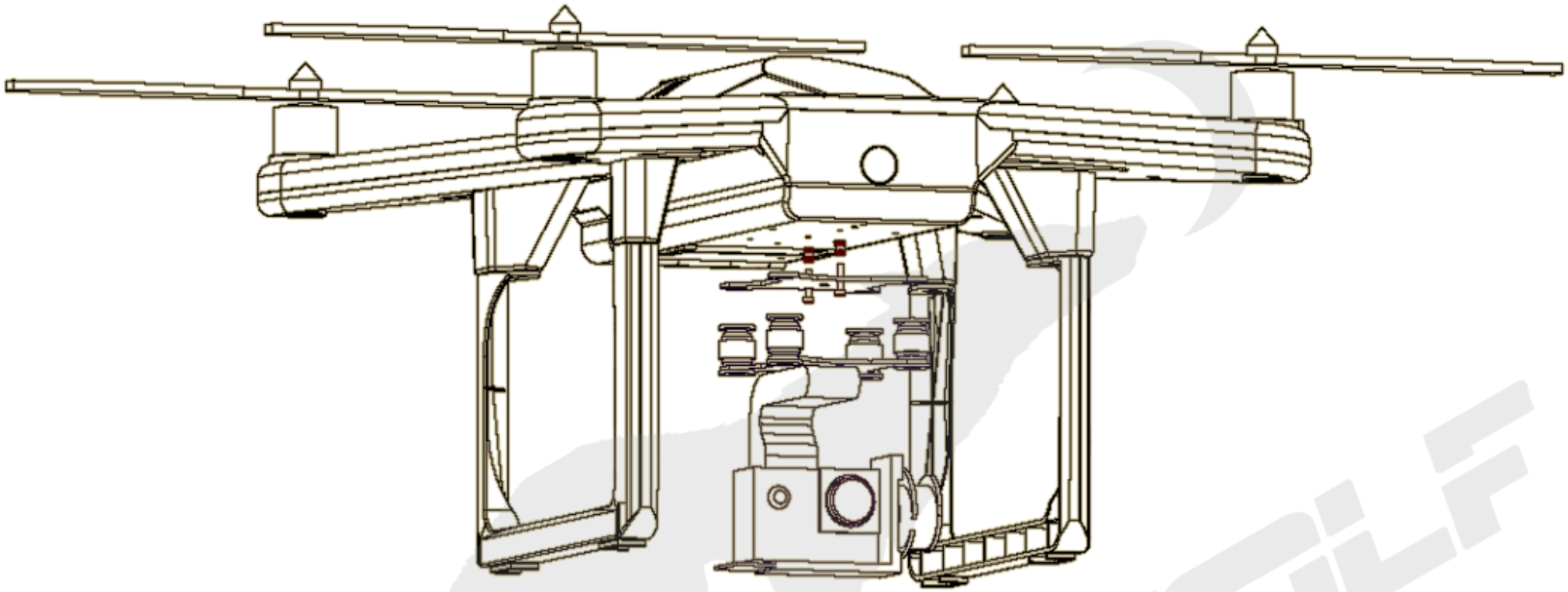
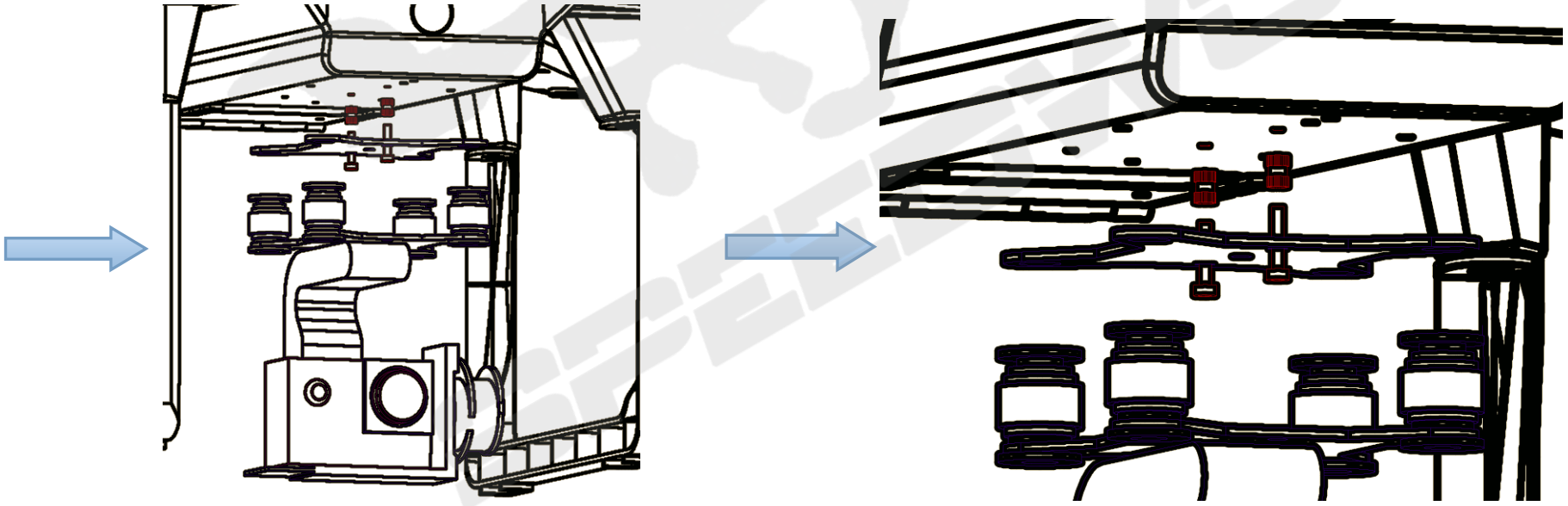


Image 15 FPV button of camera

If press 3 second FPV button,the camera will change to FPV mode,5.8G transmitter;If press 3second FPV button again,the camera will automatically quit FPV button.

XV. Gimbal





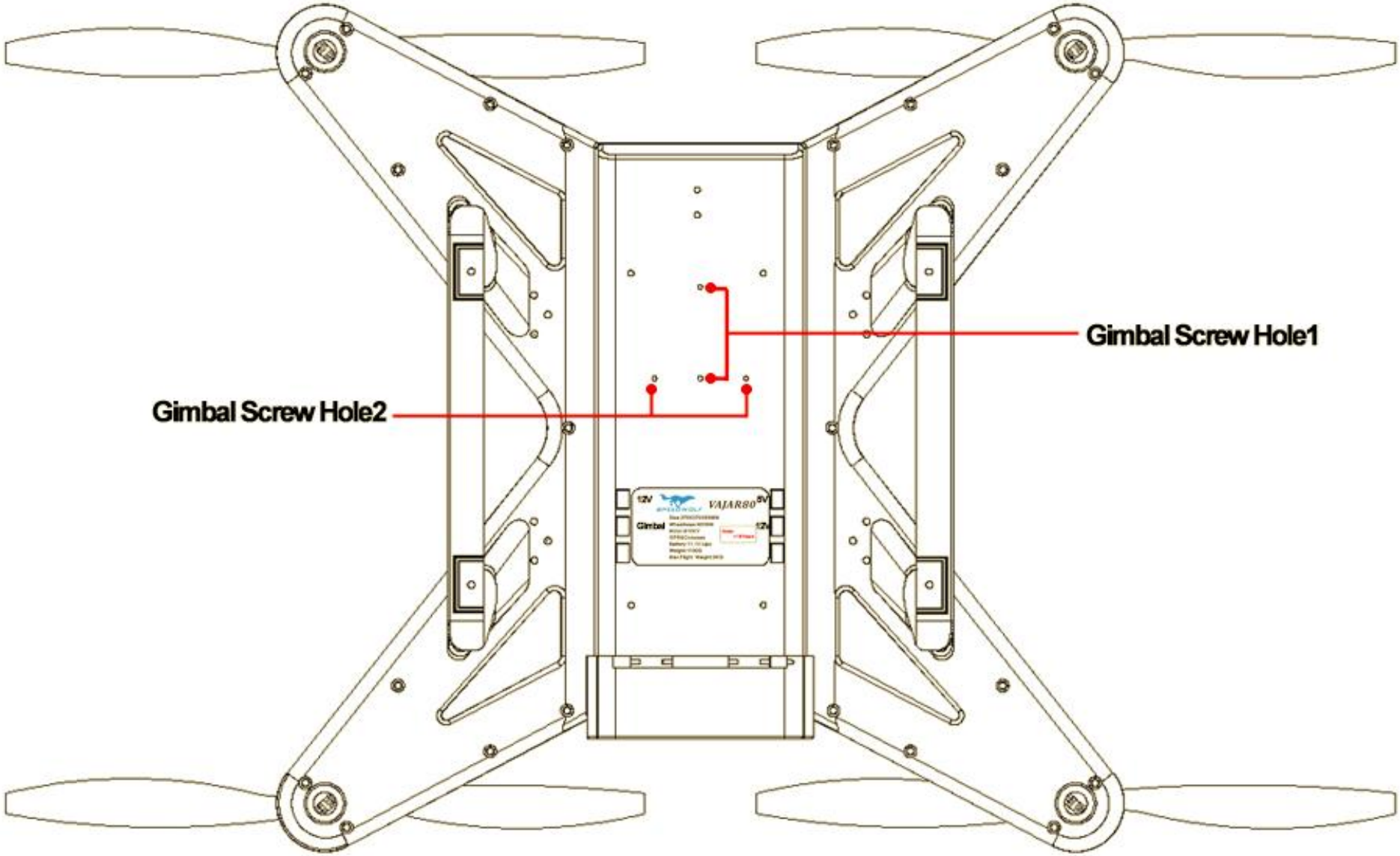


Image16 Gimbal

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